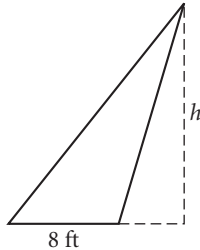


Lesson 8.2 • Areas of Triangles, Trapezoids, and Kites

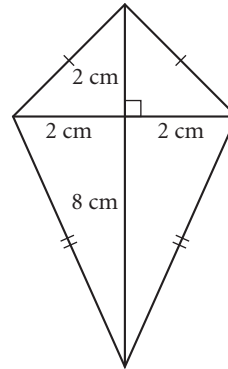
Name _____ Period _____ Date _____

In Exercises 1–4, solve for the unknown measures.

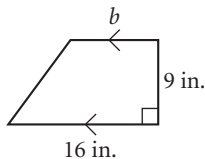
1. Area = 64 ft^2 , $h =$ _____.



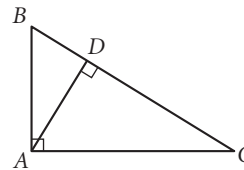
2. Area = _____.



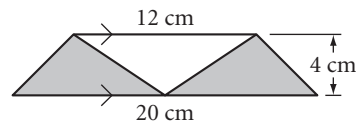
3. Area = 126 in^2
 $b =$ _____.



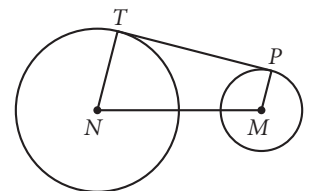
4. $AB = 6 \text{ cm}$, $AC = 8 \text{ cm}$, and $BC = 10 \text{ cm}$.
Find AD .



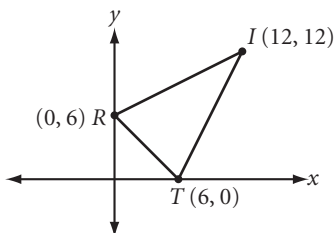
5. Find the area of the shaded region.



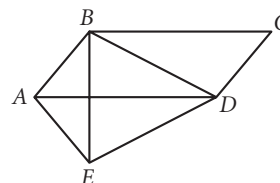
6. \overline{TP} is tangent to circles M and N . $TP = 16 \text{ cm}$. The radius of N is 7 cm and the radius of M is 4 cm. Find the area of $NMPT$.



7. Find the area of $\triangle TRI$.



8. $ABCD$ is a parallelogram, $ABDE$ is a kite, $AD = 18 \text{ cm}$, and $BE = 10 \text{ cm}$. Find the area of $ABCDE$.

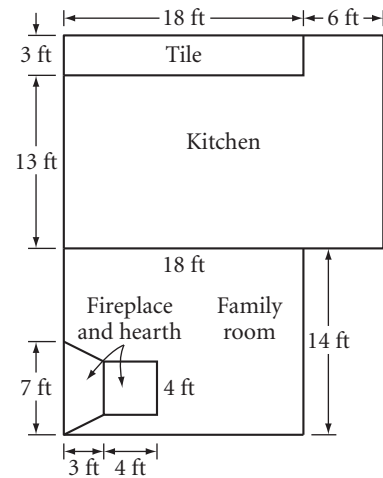


Lesson 8.3 • Area Problems

Name _____ Period _____ Date _____

1. A bundle of hardwood flooring contains $14\frac{1}{2}$ ft² and costs \$39.90.

- How many square feet of flooring is needed to cover the kitchen and family room? Exclude the fireplace, hearth, and tiled area.
- You should buy 5% extra flooring to account for waste. How many bundles of flooring should you buy? What will be the cost?



2. Bert's Bigtime Bakery has baked the world's largest chocolate cake. It is a rectangular sheet cake that is 600 cm by 400 cm by 180 cm high. Bert wants to apply frosting to the four sides and the top. How many liters of frosting does he need if 1 liter of frosting covers about 1200 cm²?

3. For a World Peace Day celebration the students at Cabot Junior/Senior High School are making a 6 m-by-8 m flag. Each of the six grades will create a motif to honor the people of the six inhabited continents. Sketch three possible ways to divide the flag: one into six congruent triangles; one into six triangles with equal area but none congruent; and one into six congruent trapezoids. Give measurements or markings on your sketches so each class knows it has equal area.

4. Kit and Kat are building a kite for the big kite festival. Kit has already cut his sticks for the diagonals. He wants to position P so that he will have maximum kite area. He asks Kat for advice. What should Kat tell him?

